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We report some preliminary results in an in-situ study on zeolite A, using SAM-85. A large volume BN cell (20x20x20 mm) was used and two samples were packed in the cell: a pure zeolite A, and the other mixed with 5 wt percent glass; they were separated by a layer of NaCl, also used as the pressure standard. Strong diffraction signals were observed at 1 bar for both samples (Figs. 1A and 2A). At 2 kbar and room temperature, diffraction peaks became broad and weak (Figs. 1B and 2B). In the glass-containing sample, close to the sample/NaCl interface (0.1 mm), additional peaks appeared (compare Fig. 2B with 1B); 0.2 - 0.3 mm away from the interface, the spectrum resembles that of an amorphous material (Fig. 2C). Upon increasing temperature, pure zeolite quickly transformed into sodalite around 800°C (Fig. 1C). For the glass-containing sample, those new peaks persisted (Fig. 2D). These phenomena will be examined further in future experiments.

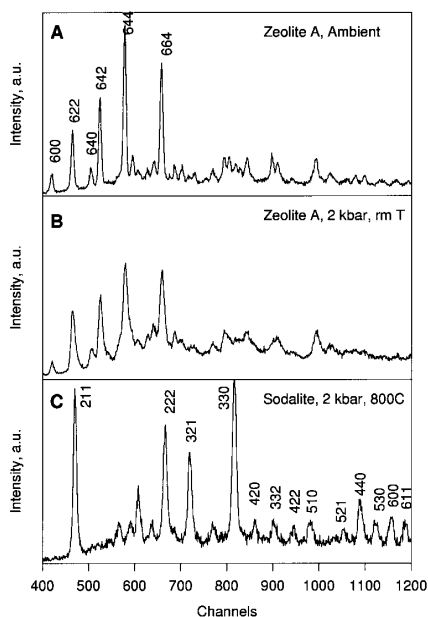


Figure 1. X-ray spectra of pure zeolite A. Major peaks labeled in A. Same intensity scale as in Fig. 2.

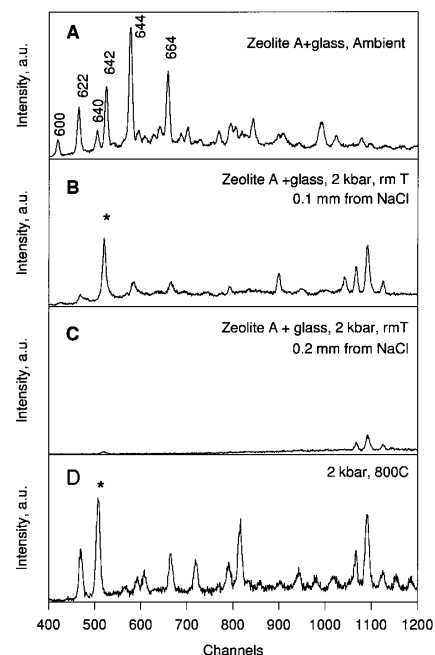


Figure 2. X-ray spectra of zeolite+glass.